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DESCRIPTIONS OF NEW BATS
OF THE GENUS *VAMPYROPS*

BY CHARLES O. HANDLEY, JR. AND KAY C. FERRIS
Smithsonian Institution, Washington, D.C. 20560

Neotropical fruit juice and fruit-eating bats of the genus *Vampyrops* Peters were last reviewed by Sanborn (1955). Study of the extensive collections of the Smithsonian Venezuelan Project has revealed that some of Sanborn's species (i.e., *V. dorsalis*) are actually groups of species and that a considerable number of taxa remain to be described. Four are described in this paper.

We are grateful to Gordon B. Corbet and John E. Hill, British Museum (Natural History) (BM), for the privilege of studying the collections in their care. Specimens in the U.S. National Museum of Natural History are designated by the abbreviation (US). All measurements are in millimeters. For definition of cranial measurements, see Handley (1959: 98-99). This paper is a contribution of the Smithsonian Venezuelan Project, supported by a contract (DA-49-193-MD-2788) of the Medical Research and Development Command, Office of the Surgeon General, United States Army.

***Vampyrops latus* new species**

Holotype: USNM no. 364408, adult male, skin and skull, collected 12 August 1964, by Arden L. Tuttle, at San Juan, 900 ft., Province of Oxapampa, Department of Pasco, Perú, original number 1789.

Etymology: Latin, *latus*, broad, referring to the unusual breadth of skull.

Distribution: Basin of the Amazon, downstream at least to Obidos, Amazonas, Brazil, and upstream to elevations of at least 1,000 feet in the drainages of the Río Marañón and Río Ucayali in Perú. Probably occurs also in the Amazonian portions of Bolivia, Ecuador, Colombia, and Venezuela.

Description: Body size small for a *Vampyrops* (forearm 37.2; greatest length of skull 20.6). Dorsal coloration dull brown; hairs grayish toward base, rather buffy subterminally; white median dorsal stripe and white facial stripes above and below eye prominent; underparts paler, grayish brown. Proximal portion of forearms and to a lesser extent dorsal portions of tibiae and feet hairy; interfemoral membrane sparsely covered with short hairs and sparsely fringed with longer hairs. In dried skin wing membranes blackish; interfemoral membrane, tibiae, feet, forearms, and fingers brownish; noseleaf and lips dusky; ears blackish, but lower margins and tragus cream-colored.

Rostrum short, broad, and relatively shallow; facial profile dished; zygomata flared out from rostrum; postpalatal extension short and its outer margins merge with hind edge of palate without a sharp angle; tooth rows bowed out so as to form a nearly circular pattern; P⁴, M¹, and M² relatively large; P₄ with two anterior and one posterior cusp.

Measurements: Total length 55, hind foot (dry) 11, ear from notch 16, forearm 37.2, tibia 13.6, calcar 3.3.

Greatest length of skull 20.6, zygomatic breadth 12.4, postorbital breadth 5.3, braincase breadth 9.4, braincase depth 8.4, maxillary tooth row length 7.4, postpalatal length 7.0, palatal breadth at M¹ 8.9, palatal breadth at canines 5.0.

Comparisons: *V. latus* is a small bat of the *V. helleri* group. It most closely resembles *V. l. saccharus* of northeastern South America, described below, but is smaller (e.g., forearm 36.9–39.0 vs. 39.7–40.6; greatest length of skull 20.6–21.4 vs. 21.8–22.5; maxillary tooth row 7.1–7.5 vs. 7.8–8.3) and has on the average a lower and less arched braincase. It differs more markedly from *V. recifinus* Thomas of eastern Brazil in size (in *V. recifinus* forearm is 40.5–42.6, greatest length of skull 23.5–24.2, maxillary tooth row 8.8–9.2); relatively shorter, higher braincase; shorter postpalatal extension; smaller auditory bullae; and bicuspid vs. cusplless anterior margin of P₄. Resemblances among these three taxa are many, and additional specimens from the Orinocan and Guianan lowlands may show them all to be geographic representatives of a single widespread species.

On the other hand, *V. l. latus* is sympatric with *V. helleri incarum* Thomas and can be easily distinguished from it by its shorter, broader, relatively shallower rostrum; more dished facial profile; flared rather than subparallel zygomata; nearly circular rather than roundly V-shaped palate; shorter postpalatal extension; two vs. one cusp on anterior margin of P₄; larger P⁴, M¹, and M²; and less copious fringe on hind edge of interfemoral membrane.

Specimens examined: BRAZIL: AMAZONAS: Obidos, 1 (BM). PERU: LORETO: Iquitos (Quistococha), 1 (US); Masisea (Tushemo, 1,000 ft., Río Ucayali), 2 (BM); Pebas (south bank, 300 ft.), 1 (BM); San Lorenzo (Río Marañón, 500 ft.), 1 (BM). PASCO: San Juan, 900 ft., 8 (US). NO EXACT LOCALITY: "Amazon," 1 (BM).

Vampyrops latus saccharus new subspecies

Holotype: USNM no. 408411, adult male, skin and skull, collected 20 July 1967, by Norman E. Peterson, at Manacal, 300 m, 5 km S and 25 km E Carúpano, Sucre, Venezuela, original number 14362.

Etymology: Greek, sakcharon, sugar, referring to the type region, Sucre.

Distribution: Northeastern South America, from the state of Sucre in Venezuela to Demerara, Guyana.

Description: Similar to *V. latus latus* described above, but larger and with a relatively higher and more arched braincase.

Measurements: Total length 66, hind foot (dry) 11, ear from notch 18, forearm 39.7, tibia 14.7, calcar 4.0.

Greatest length of skull 21.8, zygomatic breadth 13.5, postorbital breadth 5.8, braincase breadth 10.1, braincase depth 8.7, maxillary tooth row length 8.0, postpalatal length 7.2, palatal breadth at M^1 9.2, palatal breadth at canines 5.0.

Comparisons: See account of *V. latus latus* above for comparisons with *V. helleri* and *V. recifinus*.

Specimens examined: GUYANA: Demerara, 1 (BM). VENEZUELA: DELTA AMACURO: Delta of Orinoco, 1 (BM). SUCRE: Manacal, 300 m, 5 km S and 25 km E Carúpano, 3 (US); near Manacal, 176 m, 4 km S and 25 km E Carúpano, 1 (US).

Vampyrops aquilus new species

Holotype: USNM no. 338025, lactating adult female, skin and skull, collected 19 February 1964, by Charles O. Handley, Jr., on the head of the Río Pucro, 4,100 ft., Cerro Malí, Darién, Panamá, original number 12655.

Etymology: Latin, aquilus, swarthy, referring to pelage coloration.

Distribution: In and near cloud forest, between 4,100 and 4,700 ft., on the Río Pucro and Cerro Malí, Darién, Panamá.

Description: Body size medium for a *Vampyrops* (forearm 45.0; greatest length of skull 27.4). Dorsal coloration bright blackish brown; hair bases dark brown, poorly differentiated from hair tips; median dorsal stripe very sharply defined, pure white; facial stripes well defined, buffy; throat dusky and remainder of underparts grayish. Proximal portion of forearms and to a lesser extent dorsal portions of tibiae and feet hairy; interfemoral membrane narrow, hairy on both surfaces, and conspicuously fringed with long hairs. In dried skin wing membranes, lips, noseleaf, ears, and tragi blackish (with yellowish cast in life); fingers, forearm, legs, feet, and interfemoral membrane dusky brown.

Zygomata subparallel, not flaring; rostrum relatively broad anteriorly; I^1 short and with outer edge straight; I^2 narrow; canine small; P^2 low; P^4 with accessory cusp on hind edge of blade and with large posterocingular cusp; P^4 and M^1 narrow; M^1 with well-developed posterolabial cingulum, and bases of paracone and metacone connected so that basin

between them opens to lingual side; M² wide and with ridge connecting paracone and metacone and with continuous labial and lingual ridges enveloping bases of cusps.

Measurements: Total length 78, hind foot (dry) 13, ear from notch 20, forearm 45.0, tibia 13.8, calcar 4.1, wingspread 373.

Greatest length of skull 27.4, zygomatic breadth 15.4, postorbital breadth 6.0, braincase breadth 11.3, braincase depth 9.3, maxillary tooth row length 10.6, postpalatal length 8.3, palatal breadth at M¹ 13.3, palatal breadth at canines 6.7.

Comparisons: *Vampyrops aquilus* is a highland species most closely related to *V. oratus* Thomas (possibly including *V. umbrinus* Lyon) of northern Venezuela and northeastern Colombia. Collection of additional specimens in the northern reaches of the Andes in Colombia may show *V. aquilus* to be only a very well-marked race of *V. oratus*. It can be distinguished easily from *V. oratus* by its larger skull (e.g., greatest length 27.0–27.5 vs. 24.9–26.6; maxillary tooth row 10.5–10.7 vs. 9.6–10.5); brighter, richer, darker coloration with more prominent markings; subparallel (rather than flaring) zygomata; and longer rostrum with relatively broader tip.

V. aquilus is less like *V. dorsalis* Thomas of eastern Panamá, western Colombia, and western Ecuador. *V. aquilus* has smaller size (e.g., forearm 45.0–46.5 vs. 48.2–51.3); much brighter coloration and more prominent markings; has throat coloration differentiated from that of the belly; the interfemoral membrane more distinctly fringed; rostrum narrower and less inflated; zygomata subparallel rather than flaring; I¹ with straighter edges; smaller canines; and P⁴, M¹, and M² narrower and with more suppressed hypocone.

Specimens examined: PANAMÁ: DARIÉN: Head of Río Pucro on Cerro Malí, 4,100–4,700 ft., 3 (US).

Vampyrops aurarius new species

Holotype: USNM no. 387163, adult male, skin and skull, collected 18 May 1966, by Merlin D. Tuttle and Arden L. Tuttle, at Km 125, 1,000 m, 85 km SSE El Dorado, Bolívar, Venezuela, original number 8329.

Etymology: Latin, aurarius, golden, referring to the type region, El Dorado.

Distribution: Guiana Highlands of Venezuela.

Description: Body size large for a *Vampyrops* (forearm 52.3; greatest length of skull 28.6). Dorsal coloration bright blackish brown; hair bases paler brown; white median dorsal stripe and buffy facial stripes prominent; underparts dull, dark brown. Interfemoral membrane conspicuously fringed. In dried skin wing membranes, noseleaf, and ears blackish; tragus yellowish; lips, fingers, forearms, legs, feet, and interfemoral membrane fuscous.

Rostrum relatively arched and narrowed anteriorly; facial profile dished; zygomata flaring; I¹ averaging relatively long and narrow; P⁴, M¹, and M² relatively wide; hypoconal area bulging in M¹.

Measurements: Total length 71, hind foot (dry) 14, ear from notch 22, forearm 52.3, tibia 19.8, calcar 5.0.

Greatest length of skull 28.6, zygomatic breadth 17.1, postorbital breadth 6.6, braincase breadth 11.5, braincase depth 10.2, maxillary tooth row length 10.9, postpalatal length 9.0, palatal breadth at M¹ 12.3, palatal breadth at canines 6.9.

Comparisons: *V. aurarius* is larger than any member of the *V. dorsalis* group and needs comparison only with *V. vittatus* Peters and its allies, with which it agrees in cranial details. It is considerably smaller than *V. vittatus* of northern Venezuela (forearm 49.8–53.9 vs. 54.5–60.7; greatest length of skull 28.3–29.0 vs. 30.5–32.6) but resembles it in coloration. Compared with eastern Ecuadorean *V. infuscus* Peters, and judging by the original description of *V. intermedius* Marinkelle (1970), it is smaller; darker, brighter, and better marked; and has I¹ longer, narrower, and usually more vertically oriented than either of those nominal species. In addition, *V. aurarius* lacks the white tipping of the wings that characterizes *V. intermedius*.

Specimens examined: VENEZUELA: BOLIVAR: Km 125, 1,000 m, 85 km SSE El Dorado, 41 (US). T. F. AMAZONAS: Caño Culebra, 800 m, Cerro Duida, 50 km NNW Esmeralda, 3 (US).

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